

REMARKS

Claim 21 was objected to for typographical errors. Accordingly, claim 21 has been amended in such a way that the Applicant believes addresses the Examiner's objections.

Furthermore, the Examiner has rejected a number of claims as being unpatentable for obviousness under 35 U.S.C. 103 over U.S. Patent 6,490,324 issued to McDade in view of U.S. Patent No. 6,496,980 issued to Tillman et al. The McDade reference has been discussed at length in previous communications with the Examiner and therefore the Applicant will focus on the Tillman reference in this response.

Tillman describes a "Method of providing replay on demand for streaming digital multimedia". More particularly as found in the Abstract of Tillman,

"the client system receives a base layer of the stream, decodes the base layer and displays the decoded base layer at a first quality level. The client system stores at least a portion of the base layer in a cache. When a request for replay service for the multimedia segment is received from a user, for high quality replay, the client system may receive **at least one enhancement layer of the stream corresponding to the stored portion of the base layer**. The client system may then read the stored portion of the base layer from the cache, decode the stored portion of the base layer and the at least one enhancement layer, and display the decoded base and enhancement layers at a second quality level, higher than the first quality level..."

This is clearly shown in FIG. 3 of Tillman showing the base layer (or video stream) and its corresponding enhancement layers (another video stream) that are used to enhance the display quality of the base layer (or video stream). It is clear from FIG.3, that the base layer (video stream) and the various corresponding enhancement layers are different video streams. Therefore in order to enhance a particular frame in the base layer, data from different video streams (i.e., enhancement layers) must be used.

For example, the Examiner specifically cited column 7, lines 35 – 50,

"Referring back to FIG. 2, while the original video data is being received in a base layer 52 of the video stream, the data may be stored by client system 44 in the client cache 50. When a request is received by the graphical user interface 48 to provide replay for a selected video segment, server system 32 **sends additional**

video data for the selected video segment in one or more enhancement layers
54. The data from the enhancement layers may be added by the client system to the data from the base layer stored in the client cache to produce a higher quality image. FIG. 4 is a diagram illustrating a base layer and an enhancement layer used to provide a higher quality replay image according to an embodiment of the present invention. In this example, a spatial enhancement layer is employed to enlarge the replayed image".

Clearly, in order to enlarge a particular video frame, only video data that corresponds to that particular video frame can be used and no other. In other words, in order to enlarge the particular video frame, data from another different video frame in the same video stream can not be used since the two frames would show different images and therefore could not be used to enlarge the particular video frame. In the case of Tillman, the enhancement video frame is part of another video data stream that corresponds one to one (as in FIG. 3) to video frames in the base layer and therefore is a different video stream than the base layer.

In contrast, independent claim 21 discloses a method of enhancing selected a digital video frame included in a digital video stream using other frame(s) selected from the same video stream. More specifically,

"selecting from the digital video stream, a particular one of the digital video frames for enhancement;
selecting from the digital video stream, others of the digital video frames associated with the digital video frame to be enhanced; and
enhancing the selected digital video frame based upon information included in the other digital video frames and the particular digital video frame".

The Applicant believes that the cited references taken singly or in any combination do not suggest the invention as recited in claim 21.

Independent claims 28 and 35 recite essentially the same limitations as claim 21 albeit in terms of computer program product and an apparatus that are nonetheless also allowable over the cited art.

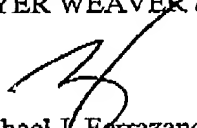
All dependent claims depend either directly or indirectly from claims 21 or 28 or 35 and are also allowable for at least the reasons stated for the independent claims.

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CONCLUSION

In view of the foregoing, it is respectfully submitted that all pending claims are allowable. Should the Examiner believe that a further telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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